

**Work Order ID 61689**

Tuesday, August 31, 2010 11:49:48 AM

Page 1

Item ID: D3488-041

Accept

Revision ID:

Item Name: Blade Fitting Assembly, LH

Start Date: 8/31/2010 Start Qty: 9.00

Required Date: 9/7/2010 Req'd Qty: 9.00

Reference:

Approvals: Process Plan: *H*Date: *10-8-31*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3488	Rev B

100

0.00



Doosan

DOOSAN LATHE

Memo

0.00

Doosan Lathe

1-Turn as per Dwg DSK 101 &amp; Folio FA625□2-Debur

*ref. 10.1.28*

110

0.00



QC

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

Quality Control

*ref 10.8.28*

120

0.00



HAAS 1

HAAS CNC VERTICAL MACHINING #1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA625 &amp; Dwg D3488□2-Debur

*SL 10/10/21**(9)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 61689

Tuesday, August 31, 2010 11:49:48 AM

Page 2

Item ID: D3488-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Blade Fitting Assembly, LH

Start Date: 8/31/2010 Start Qty: 9.00

Cust Item ID:

Required Date: 9/7/2010 Req'd Qty: 9.00

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00

JK 10/10/21

109

QC

Memo

0.00

Quality Control

140

QC8- Inspect parts - second check

0.00

A-A 10/10/25

109

QC

Memo

0.00

Quality Control

150

Chemical Conversion Coat per QSI005 4.1

0.00

10/10/25

9

HandFinish

Memo

0.00

Hand Finishing

W/O:		WORK ORDER CHANGES					
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Page 3

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Revision ID:

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Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum <i>MU5291.</i>	0.00 0.00	<i>BL 10-10-26</i>			<i>9</i>			
	Memo START TIME: <i>1:50</i> <i>3:20</i> FINISH TIME: <i>2:20</i>								
170  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00 0.00	<i>=&gt; 10/11/09</i>			<i>9</i>	<i>0</i>		
180  HandFinish Hand Finishing	HandFinishing  Memo Install Inserts as per Dwg D3488	0.00 0.00	<i>=&gt; 10/11/09</i>			<i>9</i>	<i>0</i>		

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 61689**

Tuesday, August 31, 2010 11:49:48 AM

Page 4

Item ID: D3488-041

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Revision ID:

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Start Date: 8/31/2010 Start Qty: 9.00

Required Date: 9/7/2010 Req'd Qty: 9.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

10 11 09 (90)

200



Packaging

Packaging

Identify as per dwg & Stock Location: FP-18

0.00

Memo

0.00

10/14/09

9

210



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/11/10 90  
10-11-10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, August 31, 2010 11:49:52 AM

Page 1

Work Order ID: 61689

Parent Item: D3488-041

Parent Item Name: Blade Fitting Assembly, LH

Start Date: 8/31/2010

Required Date: 9/7/2010

Start Qty: 9.00

Required Qty: 9.00

Comments: IPP Rev:A New Issue 06-02-28 JLM  
IPP Rev:B As per Rev B 06-03-30 JLM  
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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ALS7-1032-225 Purchased No



INSERT

Each 747.0000 4 36



10/14/09

## Location

## Loc Qty

## Loc Code

ST282

747

NR110768

x36

100896

100

102018

47

111529

300

111581

300

D6103-003

Manufactured No



Round Billet, Aluminum

Each 19.0000 1 9



10.9.28

## Location

## Loc Qty

## Loc Code

MAT43

19

42281

1

55430

18

(x4)

61689

(x4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DART AEROSPACE LTD		Work Order:	66689
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.150	—		VERNIER UNLESS OTHERWISE SPECIFIED.	
Ø2.780	+/-0.005	2.778	—			
Ø3.125	+/-0.010	3.124	—			
Ø3.346	+/-0.010	3.346	—			
0.125 x 45°	+/-0.010 x +/-0.1°	.125 x 45°	—			
8.000	+0.030/-0.000	8.017	—			
9.250	+/-0.010	9.250	—			
0.188	+/-0.010	.188	—			
R0.032	+/-0.010	R.032	—		RAD GAGE	
R0.062	+/-0.010	R.062	—		RAD GAGE	
Ø0.297	+0.005/-0.001	.300	—			
Ø0.430	+/-0.010	.430	—			
0.100	+/-0.010	.103	—			
0.125	+/-0.010	.128	—			
2.620	+/-0.010	2.623	—			
3.500	+/-0.010	3.500	—			
1.005	+/-0.010	1.005	—			
Ø0.484	+0.005/-0.001	.485	—			
1.180	+/-0.010	1.180	—			
3.150	+/-0.010	3.150	—			
3.070	+/-0.010	3.070	—			
R0.063	+/-0.010	R.063	—		RAD GAGE	

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	66689
<b>Description:</b> Blade Fitting, LH / Turning Detail for D3488-1/-2		<b>Part Number:</b>	D3488-1
<b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> B / D		<b>Page 2 of 2</b>	

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	.508	✓		Vern. J-3	
0.750	+/-0.010	.754	✓		H-G	
1.500	+/-0.010	1.500	✓		Vern. J-3	
11.18	+/-0.030	11.182	✓		H-G	
R0.062	+/-0.010	.062	✓		H-G	
0.125	+/-0.010	.127	✓		Vern. J-3	
0.590	+/-0.010	.590	✓		H-G	
0.793	+/-0.010	.795	✓		"	
1.351	+/-0.010	1.348	✓		"	
1.317	+/-0.010	1.318	✓		Vern. J-3	
1.802	+/-0.010	1.804	✓		H-G	

<b>Measured by:</b> <i>AD/SL</i>	<b>Audited by:</b> <i>MA</i>	<b>Prototype Approval:</b>	N/A
<b>Date:</b> <i>10.9.28/10/10/21</i>	<b>Date:</b> <i>10/10/25</i>	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-041	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM <i>JA</i>	<i>SL</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

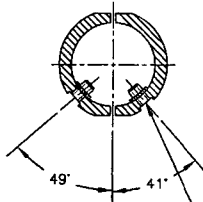
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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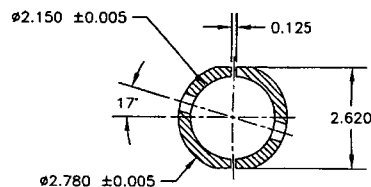
**NOTE:** Date & initial all entries

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 61689  
2810-8-3



SECTION B-B

Ø0.297  
C'BORE Ø0.430 x 0.100  
INSTALL ALS4-1032-225 (OR AKS4-1032-225  
OR ALS7-1032-225 OR AKS7-1032-225)  
INSERTS AFTER FINISH  
(4 PLACES)



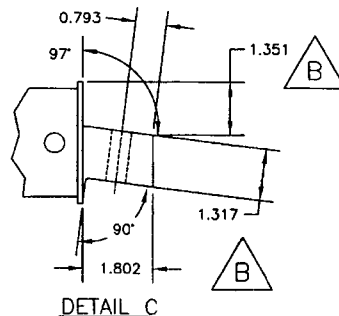
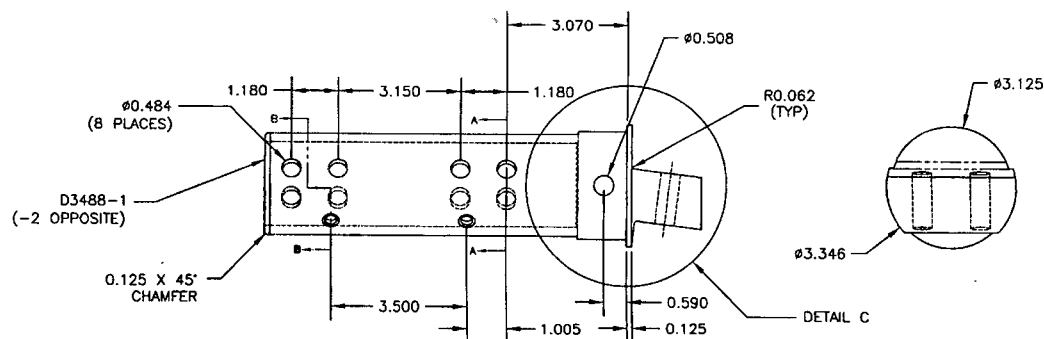
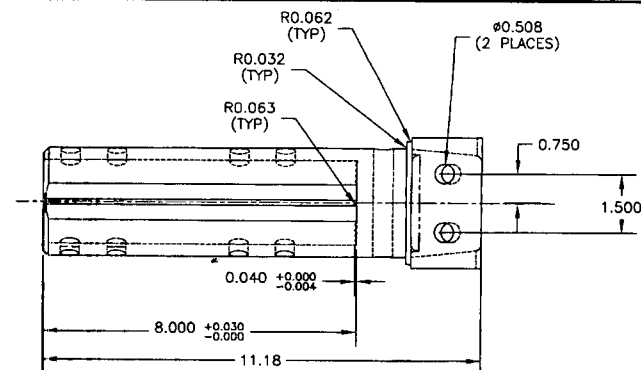
SECTION A-A

**D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST**

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X		D3488-041	BLADE FITTING ASSEMBLY (LH)
	X	D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

**D3488-041/-042 BLADE FITTING**

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



D3488-041 SHOWN (D3488-042 OPPOSITE)

**RELEASED**  
06-03-07 PH  
PER DS  
ECN #787

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	A	APPROVED A
DATE	06.03.15	TITLE
		BLADE FITTING
		SCALE
		1:3

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**DART** DART AEROSPACE USA, INC.  
PORT HADLOCK, WA

DRAWING NO. D3488  
REV. B  
SHEET 1 OF 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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